AMENDMENTS TO THE SPECIFICATION:

Please replace the paragraph [0001] of the originally filed application, with the following amended paragraph:

[0001] The present application is related to U.S. Patent Application entitled "Scene-Based Non-Uniformity Correction for Detector Arrays", ~~Serial No. _____ (Attorney Docket No. 017750-604)~~ Serial No. 09/840,920, and to U.S. Patent Application entitled "Dynamic Range Compression", ~~Serial No. _____ (Attorney Docket No. 017750-700)~~ Serial No. 09/841,081, both filed even date herewith.

Please replace paragraph [0022] of the originally filed application with the following amended paragraph:

[0022] In the FIG. 1 embodiment, an image storage device 110 can store an image, referred to herein as an original image 110(1), in any known manner. The original image 110(1) can be a pre-stored frame of image data or image data acquired in any manner known in the art, from any of a variety of EO systems or sensors including, but not limited to, a thermal sensor, imaging radar sensor, infrared sensor or the like, or from, for example, the Field Programmable Gate Array (FPGA) device described in co-pending application entitled "Dynamic Range Compression", ~~Serial No. _____ (Attorney Docket No. 017750-700)~~ Serial No. 09/841,081, filed even date herewith, the disclosure of which is hereby incorporated by reference in its entirety. The original image 110(1) can be optionally processed with gain and level correction block 110(2) and dead cell replacement block 110(3) to improve the quality of the image. The output of image storage device 110 is an

original frame 112. The original frame 112 can be processed in the FIG. 1 example to become the template frame.

Please replace paragraph [0032] of the originally filed application with the following amended paragraph:

[0032]   2-D edge enhancement filter 113 can be used to provide enhancement to the edges contained within the averaged frame. According to an exemplary embodiment, edge enhancement is accomplished by performing a low pass filtering operation on the averaged frame, thereby generating a low pass image. By subtracting the low pass image from the averaged frame, a high pass image is generated. Then, the relative gain of the low and high pass images are adjusted before integrating the two images to form an enhanced image. Two-dimensional edge enhancement is known in the art and is described, for example, in commonly-assigned U.S. Patent ~~Application No. 09/463,410~~ No. 6,359,681, the disclosure of which is hereby incorporated by reference.

Please replace paragraph [0034] of the originally filed application with the following amended paragraph:

[0034]   To overcome any eye-to-display limitations, the pixel depth of the image resulting from 2-D edge enhancement filter 113 can be optionally changed with the use of histogram projection 114 before being provided to display 120. Changing the pixel depth of an image using histogram projection is known in the art, and is described, for example, in the above-referenced U.S. Patent ~~Application No. 09/463,410~~ No. 6,359,681. In addition or alternatively to changing the pixel depth of

the image, the image resulting from 2-D edge enhancement filter 113 can be optionally interpolated in BLI 115 using, for example, bilinear interpolation to re-sample the image to either reduce or enlarge the size of the image before being provided to display 120.

Please replace paragraph [0037] of the originally filed application with the following amended paragraph:

[0037]   To improve image quality, gain and level correction block 110(2) can be optionally applied to original image 110(1). Gain and level correction can also be optionally applied to the subsequently-captured frames from image capture device 118. Gain and level correction block 110(2) can be used to, for example, remove noise components from original image 110(1) by calibrating each pixel. The noise components to be removed by calibrating each pixel are, for example, caused by variations in the gain and level from one detector element to the next. These gain and level variations are passed to the corresponding pixel values during acquisition of original image 110(1). Calibration is accomplished, in a FLIR for example, by applying a hot reference and a cold reference to each detector element and by adjusting the gain coefficient and the level coefficient for each pixel, if necessary, such that each pixel reflects the same value in response to the hot reference and in response to the cold reference. The process of calibrating each pixel value in response to a hot reference and a cold reference is known in the art, and is described, for example, in the above-incorporated U.S. Patent ~~Application No.~~ ~~09/463,410~~ No. 6,359,681.

Please replace paragraph [0039] of the originally filed application with the

following amended paragraph:

[0039]   Dead cell replacement block 110(2) can determine which detector

elements are "dead" by applying any number of well known criteria. For example,

the thermal response of each detector element can be compared to an expected

response. If the actual response is far greater or far less than expected, the

corresponding detector element is probably not functioning properly. Another

criterion that is often used to establish whether a detector element is not properly

functioning is whether the digital response of the detector element is steady or

whether it appears to flicker. A flickering or jittery response probably indicates that

the corresponding detector element is not properly functioning. Yet another criterion

is to compare the actual response of a given detector element to the mean value

taken from the response of all of the detector elements. A response that is

substantially different from the mean response probably indicates that the

corresponding detector element is not functioning properly. Also, if the dynamic

range of a given detector element is limited, this probably indicates that the detector

element is not functioning properly. One skilled in the art will understand that this list

of criteria is not exclusive, and that other criteria can similarly be used to identify

"dead" detector elements. The procedure for replacing "dead" cells is known in the

art, and is described, for example, in the above-incorporated U.S. Patent ~~Application~~

~~No. 09/463,410~~ No. 6,359,681.

Please replace paragraph [0040] of the originally filed application with the following amended paragraph:

[0040]   One skilled in the art will understand that other techniques can be used for improving image quality, such as the technique described in co-pending application entitled "Scene-Based Non-Uniformity Correction for Detector Arrays", ~~Serial No. _____ (Attorney Docket No. 017750-604)~~ <u>Serial No. 09/840,920</u>, filed even date herewith, the disclosure of which is hereby incorporated by reference in its entirety.